CLAIMS

What is claimed is:

1. A drive motor assembly for a power driven wheelchair comprising:

a stator housing for containing field coils of a stator of said motor assembly;

at least one sensor disposed in said stator housing for sensing rotation of said motor;

a memory storing motor error parameter data including data of errors of said at least one sensor, said memory being embedded in said stator housing; and

means for accessing said error parameter data of said memory from said stator housing.

2. The motor assembly of claim 1 wherein the stator housing includes an aperture for accommodating a wheel axle of the wheelchair; and including a ring magnet disposed about a periphery of said wheel axle at the stator housing, said ring magnet magnetized with a plurality of magnetic poles.

3. The motor assembly of claim 2 wherein the at least one sensor comprises two sensors assembled in a predetermined angular orientation with respect to each other and the ring magnet for generating signals from which an angular position of motor rotation is derived.

4. The motor assembly of claim 3 wherein the sensor signals are predetermined periodic waveforms separated in phase by 90° substantially.

5. The motor assembly of claim 3 wherein the motor error parameter data stored in said memory comprises data of at least one of the group consisting of angular error in the predetermined angular orientation between the two sensors, amplitude variation of each sensor to a magnetic field of the ring magnet, and a distortion parameter of each sensor that is related to a deviation of the corresponding sensor signal from the predetermined waveform thereof.

6. The motor assembly of claim 1 wherein the memory is a non-volatile memory.

7. The motor assembly of claim 1 including a circuit board for supporting the memory in the stator housing; a connector disposed at an outside wall of the stator housing; and signal lines for interconnecting the memory to the connector.

8. The motor assembly of claim 7 wherein the signal lines comprise a two wire serial communication with the memory.

9. The motor assembly of claim 7 wherein the signal lines include a clock line and a serial data line.

10. The motor assembly of claim 7 wherein the circuit board also supports the at least one sensor.

11. Apparatus for accessing motor error parameter data from a drive motor of a wheelchair, said apparatus comprising:

a memory embedded in said drive motor, said memory storing motor error parameter data; and

a programmed motor controller for controlling said drive motor, said motor controller operative to access the motor error parameter data from said embedded memory for use in controlling said drive motor.

12. The apparatus of claim 11 wherein the motor controller is programmed with a power-on program that is executable upon powering the motor controller to access the motor error parameter data from said embedded memory.

13. The apparatus of claim 12 wherein the motor controller includes a memory for storing the motor error parameter data accessed from the embedded memory of the drive motor.

14. The apparatus of claim 11 wherein the embedded memory comprises a non-volatile memory.

15. The apparatus of claim 11 wherein the motor controller is coupled to the embedded memory over a serial communications connection.

16. The apparatus of claim 15 wherein the serial communication connection comprises a clock signal and a serial data signal.

17. Method of embedding motor error parameter data in a drive motor of a wheelchair, said method comprising the steps of:

controlling said motor through at least one predetermined drive pattern;

sensing motor rotation during said drive pattern and generating signals representative thereof;

deriving error parameter data of said drive motor from said generated signals;

programming a memory with said derived error parameter data; and

embedding said memory in said drive motor.

18. The method of claim 17 including the step of providing access to the embedded memory in the drive motor through a communication connection.

19. The method of claim 18 wherein the access to the embedded memory is provided through a two wire serial communication connection.

20. The method of claim 17 wherein the step of programming includes programming a non-volatile memory with the derived error parameter data.

21. The method of claim 17 including the step of attaching the drive motor to a test fixture.

22. The method of claim 17 wherein the step of controlling includes controlling the motor through a plurality of predetermined drive patterns.

23. The method of claim 17 wherein the step of sensing includes sensing the angular position of the motor during the drive pattern and generating signals representative of said motor angular positions.